National Profile

The **National Profile** section contains figures showing trends and the distribution of sexually transmitted diseases (STDs) by age, gender, race/ethnicity and location for the United States. Where relevant, the figures illustrate progress towards specific objectives for the nation published in *Healthy People 2000: Midcourse Review and 1995 Revisions* and towards the provisional objectives given in *Healthy People 2010: Conference Edition**.

*See the **Appendix** for a listing of the Healthy People 2000 and provisional Healthy People 2010 objectives for the diseases addressed in this report.

Chlamydia

Infections due to *Chlamydia trachomatis* are the most commonly reported notifiable disease in the United States. They are among the most prevalent of all STDs and, since 1994, have comprised the largest proportion of all STDs reported to CDC (Table 1). In women, chlamydial infections, which are usually asymptomatic, often result in pelvic inflammatory disease (PID), which is a major cause of infertility, ectopic pregnancy, and chronic pelvic pain. Data from a randomized controlled trial of chlamydia screening in a managed care setting suggest that such screening programs can lead to a reduction in the incidence of PID by as much as 60%.[1] As with other inflammatory STDs, chlamydial infection can facilitate the transmission of HIV infection. In addition, pregnant women infected with chlamydial infection can pass the infection to their infants during delivery, resulting in neonatal ophthalmia and pneumonia.

The increase in reported chlamydial infections during the 1990s reflects the expansion of chlamydia screening activities, use of increasingly sensitive diagnostic tests, an increased emphasis on case reporting from providers and laboratories, and improvements in the information systems for reporting. However, many women who are at risk for this infection are still not being tested, reflecting the lack of awareness among some health care providers and the limited resources available to support screening. Chlamydia screening and reporting are likely to expand further in response to the recently implemented Health Plan Employer Data and Information Set (HEDIS) measure for chlamydia screening of sexually active women 15 to 25 years of age who are provided care through managed care organizations.[2] To better monitor trends in disease burden in defined populations during the expansion of chlamydia screening activities, data on chlamydia positivity among persons screened in a variety of settings are used; in most instances, test positivity serves as a reasonable approximation of prevalence.[3] In parts of the United States where large scale chlamydia screening programs have been instituted, prevalence of the disease has often declined substantially.

- In 1999, 49 states and the District of Columbia had regulations requiring the reporting of chlamydia cases to CDC (Figure 1, Table 5). For the state of New York, only cases identified in New York City were reported.
- In 1999, 659,441 chlamydial infections were reported to CDC from 49 states, the District of Columbia, and New York City (Table 1). This case count corresponds to a rate of 254.1 cases per 100,000 persons, an increase of 8.5% compared with the rate of 234.2 in 1998. The reported number of chlamydial infections was approximately two times greater than the number of reported cases of gonorrhea (360,076 gonorrhea cases were reported in 1999, Table 1).
- From 1987 through 1999, the reported rates of chlamydial infection increased from 50.8 to 254.1 cases per 100,000 persons (Figure 2, Table 1). The continuing increase in reported cases likely represents the further expansion of screening for this infection and also increased use of nucleic acid amplification tests, which are more sensitive than other types of screening tests.
- For the years 1996-1999, the chlamydia case rate in the Southern region of the United States (203.9, 230.1, 268.4, and 289.4 cases per 100,000 persons

respectively) was higher than in any other region of the country (Table 5, Figures 3 and 4). The higher rates in this region reflect an expansion of screening activities in the South in addition to the high burden of disease in this region. Before 1996, reported chlamydia rates were highest in the West and Midwest, where substantial public resources had been committed for screening programs, for example in family planning clinics.

- Between 1998 and 1999, rates of chlamydial infection reported from selected large cities (over 200,000 population) increased by 6% from 361.8 to 382.0 cases per 100,000 persons (Figure 5, Table 9).
- In 1999, the overall reported rate of chlamydial infection among women in the U.S. (404.5 cases per 100,000 females) was four times higher than the reported rate among men (94.7 cases per 100,000 males), reflecting the large number of women screened for this disease (Figure 6, Tables 6 and 7). The lower rates among men suggest that many of the sex partners of women with chlamydia are not diagnosed or reported. However, with the advent of the new, highly sensitive nucleic acid amplification tests that can be performed on urine, symptomatic and asymptomatic men are increasingly being diagnosed with chlamydial infection. From 1995 to 1999, the reported chlamydial infection rate in males increased by 64.1% (from 57.7 to 94.7 cases per 100,000 males) compared with a 27.9% increase in women over this period (from 316.3 to 404.5 cases per 100,000 females) (Tables 6 and 7).
- For women, the highest age-specific reported rates of chlamydia in 1999 occurred among 15- to 19- year-olds (2,483.8 per 100,000 females) and 20- to 24-year-olds (2,187.1 per 100,000 females). Age-specific reported rates among men, while substantially lower than the rates in similarly aged women, were also highest in these age groups (Figure 7, Table 3B).
- Chlamydia screening and prevalence monitoring activities were initiated in Health and Human Services (HHS) Region X in 1988 as a CDC-supported demonstration project. In 1993, chlamydia screening services for women were initiated in three additional HHS regions (III, VII, and VIII) and, in 1995, in the remaining HHS regions (I, II, IV, V, VI, and IX). In some regions, federally-funded chlamydia screening supplements local- and state-funded screening programs.
- In 1999, the median chlamydia test positivity among 15- to 24-year-old women who were screened during visits to selected family planning clinics in all states and outlying areas was 5.5% (range, 2.6% to 15.0%) (Figure 8). In many states, the chlamydia test positivity exceeded the HP2000 objective of 5% for this population, and in nearly all states chlamydia positivity exceeded the HP2010 provisional objective of 3%.[4]
- The effectiveness of large-scale screening programs in reducing chlamydia prevalence in women has been well documented in areas where this intervention has been in place for several years. For example, from 1988 to 1999, the screening programs in Health and Human Services Region X (Alaska, Idaho, Oregon, Washington) family planning clinics demonstrated a decline in chlamydia positivity of 62% from 13.0% to 4.9% among 15- to 44-year-old women (Figure 9); these positivity values were adjusted for changes in the sensitivity of laboratory tests (see **Appendix)**.[5]

- After adjusting trends in chlamydia positivity to account for changes in laboratory test methods and associated increases in test sensitivity (see **Appendix**), chlamydia test positivity decreased in five of 10 HHS regions from 1998 to 1999, increased in four regions and remained the same in one (Figure 9). Although chlamydia positivity has declined in the past year in some regions due to the effectiveness of screening and treatment of women, continued expansion of screening programs to populations with higher prevalence of disease may have contributed to increases in positivity in other regions.
- Additional information on chlamydia screening programs for women of reproductive age and chlamydia among adolescents and minority populations can be found in the **Special Focus Profiles** section.

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[1]Scholes D, Stergachis A, Heidrich FE, Andrilla H, Holmes KK, Stamm WE. Prevention of pelvic inflammatory disease by screening for cervical chlamydial infection. *N Engl J Med* 1996;34(21): 1362-66.

[2]National Committee for Quality Assurance (NCQA). *HEDIS 2000: Technical Specifications*, Washington, DC, 1999, pp. 68-70, 285-286.

[3]Dicker LW, Mosure D, Levine W. Chlamydia positivity versus prevalence: what's the difference? *Sex Transm Dis* 1998;25:251-3.

[4]U.S. Department of Health and Human Services. *Healthy People 2010 (Conference Edition, in Two Volumes)*. U.S. Government Printing Office, Washington, D.C., 2000.

[5]Dicker LW, Mosure DJ, Levine WC, et al. Impact of switching laboratory tests on reported trends in *Chlamydia trachomatis* infections. *Am J Epidemiol* 2000;51:430-5.

Figure 1. Chlamydia — Number of states that require reporting of *Chlamydia trachomatis* infections: United States, 1987–1999

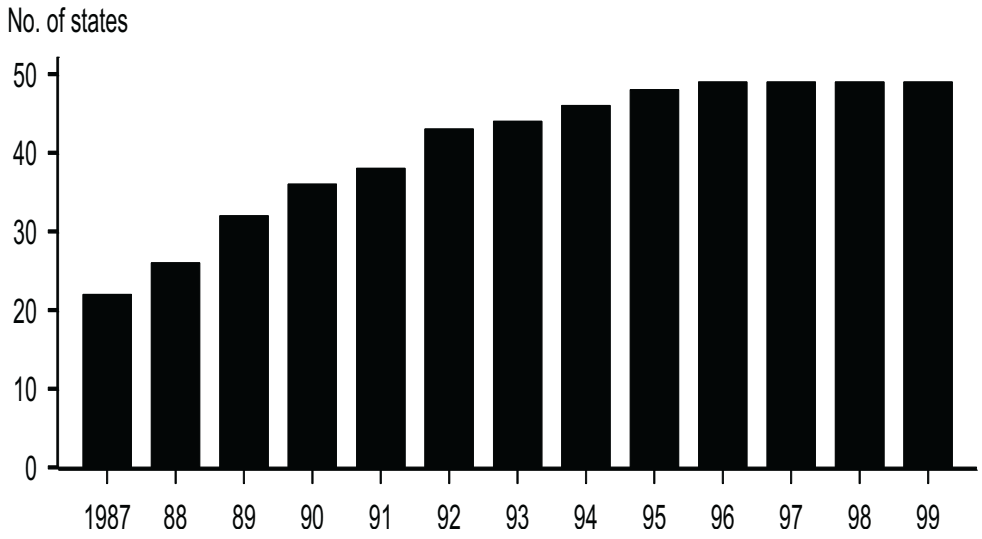
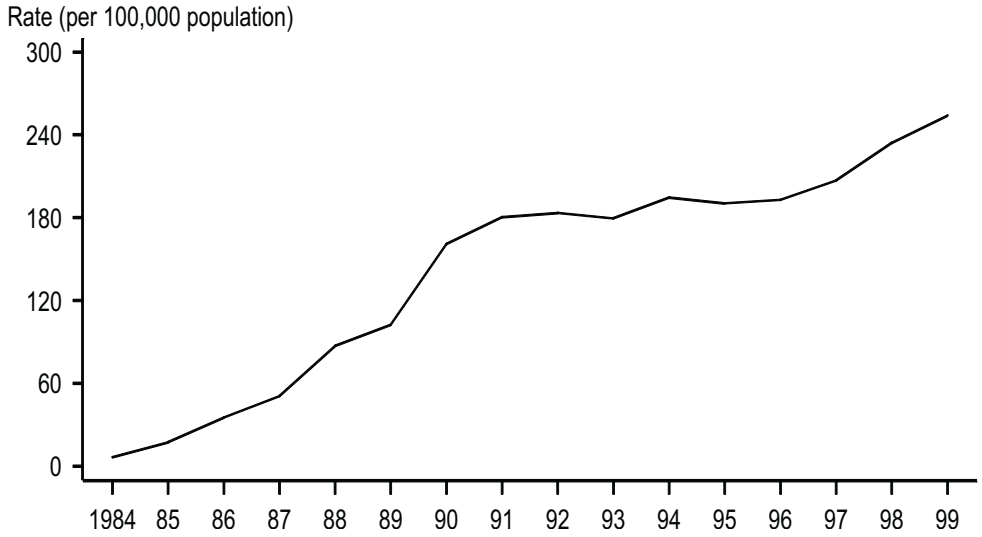
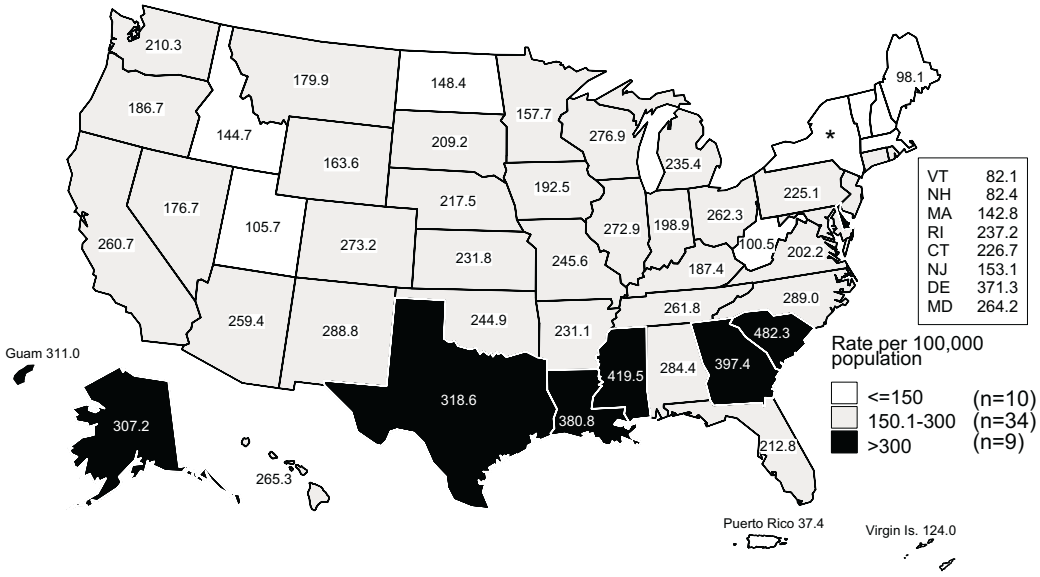


Figure 2. Chlamydia — Reported rates: United States, 1984–1999



Note: For further information on chlamydia reporting, see the Appendix.

Figure 3. Chlamydia — Rates by state: United States and outlying areas, 1999



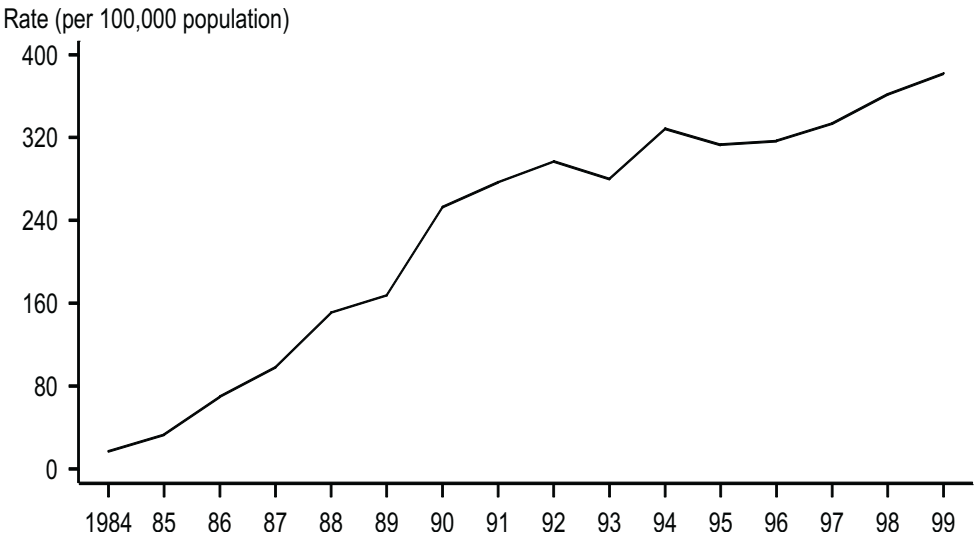
*The New York City rate was 360.7 per 100,000 population. No cases were reported outside of New York City.

Note: The total rate of chlamydia for the United States and outlying areas (including Guam, Puerto Rico and Virgin Islands) was 250.9 per 100,000 population. For further information on chlamydia reporting, see the Appendix.

Figure 4. Chlamydia — Rates by region: United States, 1984–1999

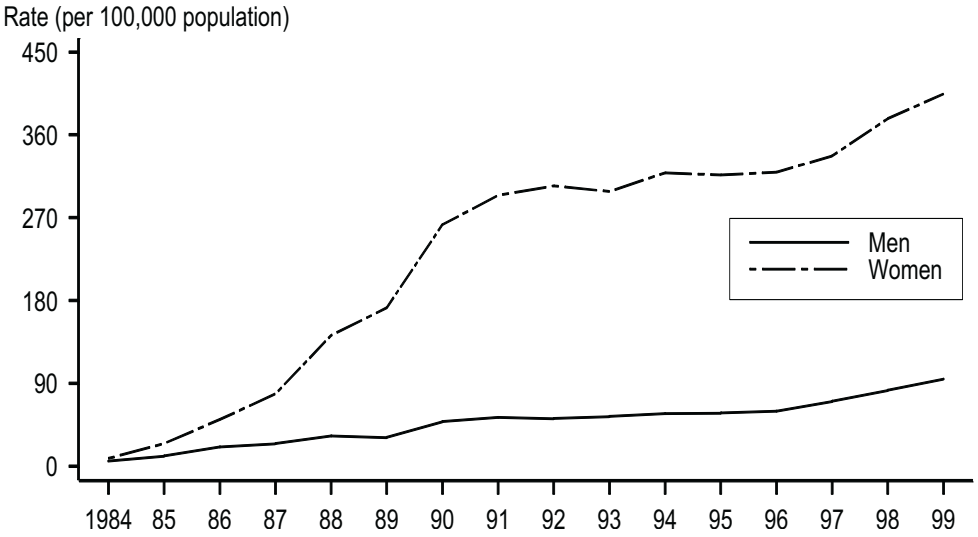
Note: For further information on chlamydia reporting, see the Appendix.

Figure 5. Chlamydia — Rates in selected U.S. cities of >200,000 population, 1984–1999



Note: For further information on chlamydia reporting, see the Appendix.

Figure 6. Chlamydia — Rates by gender: United States, 1984–1999



Note: For further information on chlamydia reporting, see the Appendix.

Figure 7. Chlamydia — Age- and gender-specific rates: United States, 1999

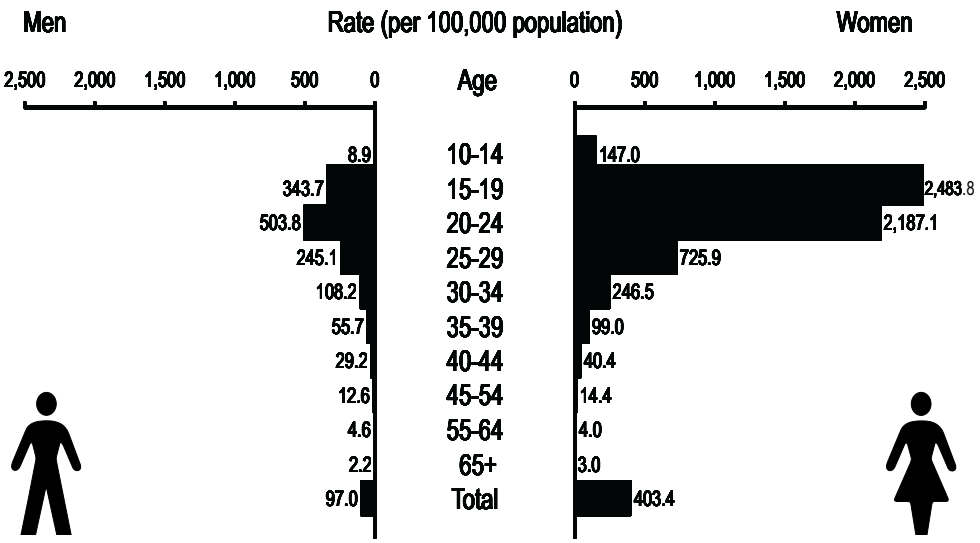
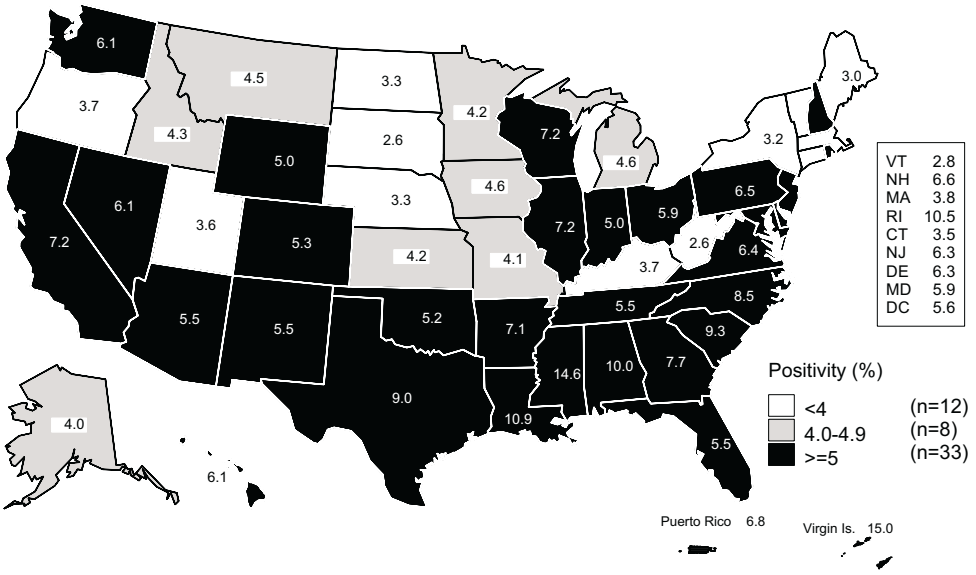


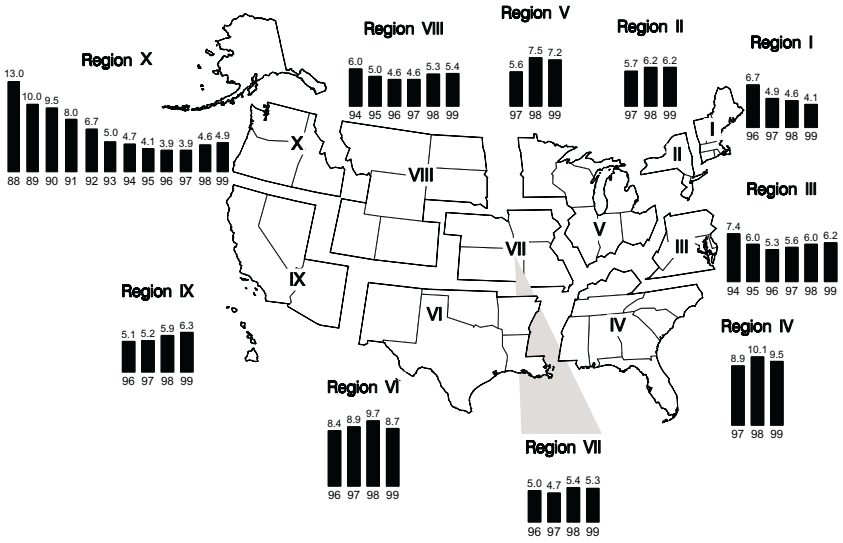
Figure 8 . Chlamydia — Positivity among 15-24 year old women tested in family planning clinics by state, 1999



Note: States reported chlamydia positivity data on at least 500 women aged 15-24 years screened during 1999 except for Rhode Island; for Puerto Rico, - chlamydia positivity data were reported for August-December only.

SOURCE: Regional Infertility Prevention Programs; Office of Population Affairs; Local and State STD Control Programs; Centers for Disease Control and Prevention

Figure 9. Chlamydia — Trends in positivity among 15-44 year old women tested in family planning clinics by HHS regions, 1988–1999



Note: Trends adjusted for changes in laboratory test method and associated increases in test sensitivity (see Appendix). No data on laboratory test method available for Region VII in 1995 and Regions IV and V in 1996. See Appendix for definition of Health and Human Services (HHS) regions.

SOURCE: Regional Infertility Prevention Programs; Office of Population Affairs; Local and State STD Control Programs; Centers for Disease Control and Prevention